

EXHIBIT 16

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

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IN RE: JOHNSON & JOHNSON TALCUM
POWDER PRODUCTS MARKETING, SALES
PRACTICES, AND PRODUCTS MDL NO:
LIABILITY LITIGATION 16-2738 (FLW)(LHG)

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THIS DOCUMENT RELATES TO
ALL CASES

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DEPOSITION UNDER ORAL EXAMINATION OF

SARAH E. KANE, M.D.

January 25, 2019, 9:19 a.m.

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REPORTED BY: JANET M. SAMBATARO, RMR, CRR, CLR

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1 separating out.

2 I've looked at the talcum powder product
3 that women use on their perineum, what they
4 bought off the shelf. I haven't looked at
5 pharmaceutical-grade -- let me correct that --
6 pleurodesis talc, for example. I have not looked
7 at pleurodesis talc and ovarian cancer. I have
8 not looked at any literature specifically on
9 that. It's been the talcum powder products that
10 women are buying off the shelf and using on their
11 perineum.

12 Q. So if I told you that Johnson's baby
13 powder starts out as pharmaceutical-grade talc
14 and that, beyond that, fragrance is added, would
15 it be the fragrance that you're taking issue with
16 that you believe is causally associated with the
17 development of ovarian cancer?

18 A. Again, I -- it's whatever is in that
19 bottle. It could be platy talc, fibrous talc,
20 asbestos, heavy metals, fragrance. It -- to me,
21 it's the product, whatever the product is that
22 they are using.

23 Q. And you have done a biologic
24 plausibility analysis for fragrances, for metals,
25 for asbestos, for fibrous talc, and for platy

1 talc --

2 A. So --

3 Q. -- each one of those constituents?

4 A. So I have looked at evidence -- so
5 Dr. Crowley's report, I mentioned. I've looked
6 at Dr. Longo's report. I've looked at Hopkins
7 and the Pier charts from their depositions. I'm
8 aware of evidence that these heavy metals and
9 fragrances and asbestos are in there.

10 However, I haven't done -- what I know, I
11 looked at the -- I've looked at some literature
12 and I've looked at the IARC categorization of the
13 heavy metals. I've looked at Dr. Crowley's
14 report and I've done an extensive look at
15 asbestos and ovarian cancer.

16 But, ultimately, those are just pieces of
17 biological plausibility. What I'm mainly -- what
18 I am opining about is the ultimate product. And,
19 again, it can be platy talc, it can be fibrous
20 talc, it can be asbestos, it can be heavy metals.

21 It's pieces of information that strengthen
22 the plausibility. We know that asbestos causes
23 ovarian cancer, that certain heavy metals are
24 carcinogens, which the IARC categorized them as.
25 So it's just -- it's just additional pieces of

1 information that strengthen the biological
2 plausibility arm of it.

3 Q. Doctor, how do you arrive at a
4 causation conclusion without a well-defined agent
5 of exposure?

6 MR. ROTMAN: Objection.

7 Q. Do you understand what I'm asking you?
8 How do you arrive at your causation and
9 conclusion when you're not sure what it is about
10 the talcum powder products that's actually
11 biologically relevant?

12 A. Well, I think -- well, strike that.

13 The epi studies are looking at the product
14 that the women are using. So that is the agent.
15 It's the -- it's the total product. That is the
16 agent.

17 So when you're looking through -- let me
18 just -- so let's keep in mind that we're looking
19 at that product.

20 And then if you go through my Bradford Hill
21 analysis, you look at strength of association.
22 And, overall, there's a consistent relative risk
23 that's between 1 and 2. I would say it's, across
24 studies, averaging 1.3 to 1.4 relative risk, and
25 that's consistent across studies. That's the

1 an answer about the epi studies are looking at
2 the product that the women are using, and you
3 were talking about strength of association and
4 then you said, "And that's consistent across
5 studies. That's the consistency piece of it,"
6 and then you were interrupted.

7 So were you done with your answer to
8 that earlier question?

9 THE WITNESS: I can continue, because I
10 think it's important.

11 I mean, I was -- my general causation
12 opinion, the methodology I used was to answer the
13 question: Does perineal application of talcum
14 powder products, the, you know, baby powder
15 product that you buy off the shelf, does that
16 cause ovarian cancer? So it's whatever is in
17 that bottle.

18 So with the methodology that I used,
19 looking at the epi data, but also considering the
20 Bradford Hill criteria -- which, you know,
21 looking for specificity is another one. So most
22 of the studies showed a stronger -- a strong
23 association with serous ovarian cancer, but it
24 was basically associated with epithelial ovarian
25 cancer, so all groups of epithelial ovarian

1 cancer. It was pretty specific, the epi data,
2 for that type of ovarian cancer.

3 Temporality. If you look at that, I
4 mean, the case-control studies are retrospective
5 reviews, so we know that they were using talc
6 before their diagnosis of ovarian cancer.

7 Biological gradient. For those studies
8 that looked at a biological gradient, there was
9 an evident -- there was evidence of a
10 dose-response, not all of the times statistically
11 significant, but the trend -- you can see a trend
12 of a dose-response across studies.

13 And then we get into the plausibility
14 piece, which you've been discussing mostly so far
15 in this deposition, which has to do with the
16 plausible mechanism of talcum powder -- what I'm
17 thinking of, talcum powder products -- whatever
18 is in that bottle was what I'm looking at --
19 talcum powder products causing -- the
20 plausibility of it causing a chronic inflammatory
21 response, leading to ovarian cancer. We've been
22 discussing that quite a bit today.

23 And then coherence. So I can refer
24 again to my report. Coherence, in this context,
25 means coherence between epidemiologic and

1 generally accepted knowledge of the disease in
2 question.

3 So we know that particles can reach the
4 ovary. We know that talc can cause chronic
5 inflammation. We know that chronic inflammation
6 is associated with certain types of cancer. We
7 know that certain types of ovarian cancer have
8 shown association with chronic inflammatory
9 conditions.

10 So, again, going through all this is
11 experiment and analogy, experiment with the
12 animal studies and the in vitro studies. And
13 analogy, I used the example of asbestos, because
14 even though asbestos is -- you know, asbestos is
15 chemically similar, you can have asbestos fibers
16 and talc fibers, but it's a similar mineral
17 chemically, and we know that that is a
18 carcinogen. So that's part of the analogy.

19 But, again, it's the whole picture. I
20 mean, you look at the -- all of this data
21 following my methodology and you apply the
22 Bradford Hill criteria guidelines -- the Bradford
23 Hill guidelines. And, looking at all that, my
24 professional judgment is that the talcum powder
25 products can cause ovarian cancer.

1 little too wide a net. I think science is always
2 evolving and there's always the possibility of an
3 unknown cause of a certain type of cancer.

4 MS. AHERN: Objection. Nonresponsive.

5 Q. My question was just: Can carcinogens
6 be organ specific?

7 A. And I feel like I answered that fairly.

8 Q. Do you know of carcinogens that are
9 organ specific?

10 A. I know -- for example, we know that H.
11 Pylori causes increased risk of gastric cancer,
12 but not oral or esophageal cancer.

13 We know that HPV infection can cause
14 cervical cancer, anal cancer, certain types of
15 squamous cell carcinomas of the oropharyngeal
16 system, but not, you know, of the endometrium,
17 for example.

18 So we know that certain things cause certain
19 cancers and aren't -- haven't been associated
20 with other types of cancers. But to cast that
21 wide a net, to say that a carcinogen is only
22 going to cause one type of cancer or this cancer
23 is caused only by this carcinogen, I think that's
24 too wide a net, because I feel like research is
25 constantly evolving. We're constantly learning

1 of new causal factors in cancer.

2 Q. Do you think that dose is an important
3 consideration when you're looking at the
4 toxicologic effects of an agent on a tissue?

5 A. I think it is a piece of information.
6 I'm looking at my biological gradient portion of
7 my report, and I said in my report that it was an
8 important factor in my analysis because it does
9 add information to the overall causality.

10 Q. Are there agents that can be toxic at
11 certain levels and not toxic at other levels?

12 A. There are certainly agents that are
13 more toxic with increased exposure and increased
14 duration. We don't know all of the thresholds
15 for carcinogenicity of all carcinogens.

16 Q. As part of the biologic plausibility
17 analysis that you would do on a particular agent,
18 would that take into consideration the relative
19 levels of exposure that a person would have to
20 that agent?

21 A. Well, dose-response -- I -- I'm taking
22 it -- your question -- can you rephrase the
23 question? I'm sorry. I just want to make sure
24 I'm answering it accurately.

25 Q. To determine whether it's biologically

1 biology and inflammation, are you?

2 A. I am not currently participating in a
3 study of oxidative stress or redox biology.

4 Q. You don't have any funding related to
5 oxidative stress and inflammation, do you?

6 A. No, I do not.

7 Q. Have you ever applied for any funding
8 in that area?

9 A. No. I have not.

10 Q. Have you ever authored a systematic
11 review of the literature on oxidative stress and
12 inflammation?

13 A. Oxidative stress and inflammation, no.
14 I don't believe I have.

15 Q. Have you ever authored a systematic
16 review of the literature on oxidative stress and
17 cancer?

18 A. No. I have not authored a systematic
19 review on that.

20 Q. Okay. Doctor, moving on to
21 inflammation and ovarian cancer.

22 Generally, on inflammation, can you cite to
23 a published experiment that was conducted in
24 animals in vivo that establishes a role of any
25 particular inflammatory cell or cytokine or